

REMARKS

Claims 26, 33, 34, and 46 have been amended to address the objections and rejections based on wording.

Claim 26 was amended to add a limitation as discussed hereafter.

The Examiner has cited a new reference; namely, Konzelmann et al. Published German PCT Patent Application No. WO2002/103135 A1. The Examiner relies upon U.S. Publication No. 2004/0168392 A1 as an English translation of the reference. This reference corresponds to German Printed Application No. DE 201 09 840 U1 which is distinguished in the Applicant's specification at page 2, lines 1 to 17. There it is explained that a connection is proposed by the reference that is free from play brought about by a displacing movement along the common connecting joint. However, the locking together of adjacent boards in the direction perpendicular to the surfaces of the boards is achieved by first rotating the tongue of one board into the groove of an adjacent board or by depressing the connecting portions of one board made of an elastic material to insert the tongue of one board into the adjacent board. The rotational connection requires a particular complex design of the tongues and grooves to permit the connection in this manner. The use of elastic material results in a lesser strength of the connection. Moreover, the play free connection is achieved by vertical groove walls that have an arched, wave-like, serpentine or saw-tooth configuration that is difficult to manufacture.

With reference to Fig. 1 of the corresponding published U.S. application, the wall 10 has a zig-zag or serpentine configuration with respect to connecting joint 4. This has two major consequences. The board 2 can only be inserted into board 1 by first rotating board 2 so that the lateral tongue 6 enters the lateral groove 5. Also, the zig-zag surfaces of

the two boards must be substantially aligned (zig in zag) prior to rotation. The range of displacement is severely limited complicating the assembly of boards.

With the current amendment of independent claim 26, claim 26 and the claims dependent thereon have added limitations to provide that the locking elements (9, 18) have surfaces relative to the common joint that increase or decrease along the joint in a linear (thus, not zig-zag or serpentine) manner. This language clearly distinguishes the subject matter disclosed in the German reference.

With regard to independent claim 29 and the claims dependent thereon, the boards are defined as having locking elements that enable the boards to be brought together exclusively by lowering in a vertical direction to an initial position, that is, without rotation of one board relative to the other, and then moved to a final position interlocked by a positive fit with no play.

With regard to independent claim 46 and the claims dependent thereon, the method of connecting boards provides that the engagement of the tongue into the groove takes place by the displacement along the common joint whereas with the German reference, the engagement of the tongue into the groove is required prior to the displacement.

The Examiner has rejected claims 26-34 and 46-51 under 35 U.S.C. § 103(a) as unpatentable over German reference WO 2002/103135 A1.

Reconsideration of amended claim 26 and the claims dependent thereon is requested.

As claim 26 has been amended, it clearly distinguishes the German patent and there is no suggestion or apparent reason to modify the German patent so as to have the locking elements wedge-shaped having surfaces relative to the common joint in a linear manner. The specific teachings of the German patent require that the locking elements are

zig-zag or saw-toothed or serpentine. The tongue and grooves of the boards of the German patent are designed to be rotated into place or by having a flexible securing means for snapping into place after the tongue is inserted in the groove. No dissatisfaction is suggested for the boards described in the German patent, which are represented therein as an improvement over five prior art patents. There would be no apparent reason for one of ordinary skill in the art to modify the configuration of the boards disclosed in the German patent. On this record, it is clear that the advantages of the Applicant's configuration were clearly not apparent to those of ordinary skill in the art and could serve as no motivation or reason to modify the structure of the German patent.

The comments with regard to claim 26 apply to claims 27 and 28.

With regard to claim 29, the German patent does not disclose boards that can be brought into mutual position exclusively by lowering in a vertical direction. As is clear from the drawings in the German patent, the initial position can only be achieved by rotating the tongue into the groove or by lowering the tongue against a flexible securing means and pushing the tongue into the groove.

The comments regarding claim 29 apply equally to claim 30.

In addition to the reasons set forth for claim 29, claim 31 provides that the locking elements of the boards can be brought into an initial position offset by more than 50 percent which is not possible with the boards disclosed in the German patent. The fact that the zigs must be substantially aligned with the zags requires that there can be no significant initial offset between boards to be brought into contact along the entire length of the common connecting joint. To modify the German patent to permit a 50 percent offset would be to eliminate the zigs and zags which would be contrary to the basic teachings of the German reference.

The comments with regard to claim 31 apply to claims 32 to 34.

With regard to claim 46, the German patent does not disclose a method for bringing boards together such that relative displacement along the common connecting joint will engage the boards in a common fit both perpendicular to the connecting joint and perpendicular to the planar surface of the boards. There is no apparent way with the boards disclosed in the German patent that the tongues can enter the grooves while shifting the boards along the common joint from an initial position in which the tongue is not already in the groove. No dissatisfaction is suggested for the boards described in the German patent, which are represented therein as an improvement over five prior art patents. There would be no apparent reason for one of ordinary skill in the art to modify the configuration of the boards disclosed in the German patent. On this record, it is clear that the advantages of the Applicant's configuration were clearly not apparent to those of ordinary skill in the art and could serve as no motivation or reason to modify the structure of the German patent.

The comments with regard to claim 46 apply to claims 47 to 51.

The Examiner has rejected claims 36-37 and 39-45 under 35 U.S.C. § 103(a) as being unpatentable over the German patent in view of McBurney U.S. Patent No. 2,016,382. The Examiner states:

German Patent discloses boards (1, 2) as discussed above, but does not disclose at least one lateral boundary of the perpendicular groove and a lateral boundary of the perpendicular locking element is formed wedge-shaped, in particular has such a course relative to the common joint that the distance to the common joint decreases or increases along the joint in a linear manner. However, McBurney teaches at least one lateral boundary of the perpendicular groove (12) and a lateral boundary of the perpendicular locking element (13) is formed wedge-shaped, in particular has such a course relative to the common joint (j) that the distance to the common joint decreases or increases along the joint in a linear, (annotated Figure 5). Therefore, it would have been obvious to substitute

the locking elements of German Patent with the locking elements of McBurney since this would have yielded predictable results, which is an interlocking action to one of ordinary skill in the art at the time of the invention such as interlocking floor boards.

Reconsideration is respectfully requested.

The McBurney patent relates to refractory blocks that line the tank for holding molten glass. The McBurney patent discloses with reference to the figures a keyed connection between the interior faces of two blocks. The keyed connection does not prevent the separation of the block 10 facing the glass tank from the back-up block 11. The converging arrangement of the marginal faces does not cause the block to shift either in a direction parallel to the faces of the blocks or perpendicular to the faces of the blocks. When the marginal faces 17 of the key meet the marginal faces of the keyway, the marginal faces merely seat together. This action does not draw the blocks together. It does not even enable the shift of block 10 relative to block 17 parallel to the faces of the blocks. Nothing in the teachings of the McBurney patent would suggest modification of the tongue-and-groove connection along the lateral edges of floor boards disclosed in the German patent in a way to permit the lateral edges to be interlocked with a positive fit. Indeed, any modification of the German patent to incorporate the key and keyway structure of McBurney would eliminate the ability of the two boards to be drawn together.

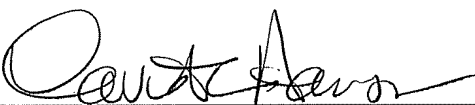
Not only is the McBurney patent directed to an entirely non-analogous art but it is not directed to solving the same type of problem. There is no teaching of connecting the lateral edges of the blocks facing into the glass tank to adjacent blocks facing into the glass tank. No interconnection between adjacent blocks facing the molten glass will prevent the separation of those blocks perpendicular to the joint therebetween, nor are the adjacent blocks connected to prevent relative movement perpendicular to the face of the blocks.

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For at least these reasons, it is respectfully urged that it would not have been obvious or useful to substitute the key and keyway of the McBurney patent for the locking elements of the German patent and even if attempted would not have provided the boards as described by the Applicant's claims nor would it provide the desired results of drawing the boards together.

In view of the foregoing amendments and remarks, it is urged this case is now in condition for allowance.

Respectfully submitted,
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